

REMARKS/ARGUMENTS

Favorable reconsideration of this application as presently amended and in light of the following discussion is respectfully requested.

Claims 2, 3, 5, 6, 8-20, 22, 23, and 25-29 remain active in this application, Claims 7, 20 and 27 having been amended and Claims 1, 4, 7, 21 and 24 canceled by the present Amendment.

In the outstanding Office Action Figures 1-3 and the specification was objected to as requiring correction; Claims 1-3 were rejected under 35 USC §102(b) as being anticipated by Tanaka et al (US 5,506,429); Claims 1, 4, and 7 were rejected under 35 USC §102(b) as being anticipated by Applicant's admitted prior art; Claims 2, 3, 5, 6, 8-19 and 25-29 were rejected under 35 USC §103(a) as being unpatentable over Applicant's admitted prior art in view of Tanaka et al; Claims 21, 22 and 23 were rejected under 35 USC §103(a) as being unpatentable over Tanaka et al in view of Wakayama et al (US 5,736,756); Claim 21 was rejected under 35 USC §103(a) as being unpatentable over Applicant's admitted prior art in view of Wakayama et al; Claims 22 and 23 were rejected under 35 USC §103(a) as being unpatentable over Applicant's admitted prior art in view of Takana et al as applied to Claims 2 and 3 above, and further in view of Wakayama et al; Claim 24 was rejected under 35 USC §103(a) as being unpatentable over Applicant's admitted prior art; and Claim 20 was objected to as being dependent upon a rejected base claim, but otherwise was indicated as being allowable if rewritten in independent form.

Applicants acknowledge with appreciation the indication that Claim 20 includes allowable subject matter. In light of this indication, Claim 20 has been amended to be in independent form and therefore Claim 20 is in condition for formal allowance.

In response to the objection to Figs. 1-3, submitted herewith is a replacement sheet for Figs. 1-3, in which the label --PRIOR ART-- has been added. Accordingly, the objection to Figs. 1-3 is believed to have been overcome.

In response to the objection to the specification, submitted herewith is a Substitute Specification, in which the lines are double spaced on good quality paper. Accordingly, the objection to the specification is believed to have been overcome.

In addition, Claims 7, 20 and 27 have been amended to be in independent form. In these claims the contact is formed between the wiring layers different from each other, or between the wiring layer and the electrode.

Turning now to the applied prior art, Tanaka et al discloses contact holes C1 and C2 connected to electrodes 36. Although the contact is formed in the contact holes, the contact is formed in a direction different from the x and y directions in which the electric charge is transferred, i.e., the direction vertical to the sheet. That is, Tanaka et al neither disclose nor suggest a contact in strip shape formed along electric charge transfer direction.

The contact recited in Claims 2, 3, 5, 6, 8, 9, 10-12, 14-20, 22, 23, 25, 26-29 is formed along electric charge transfer direction of the CCD register or the direction vertical to electric charge transfer direction under the shift electrode. As a result, it is possible to shield external light incident to CCD register and the like by the contact. Because the Tanaka et al contact is formed in the direction different from electric charge transfer direction, it is impossible to shield external light.

As described above, the Tanaka et al contact is different from the claimed contact of in shape, in the location where it is disposed, and in the advantageous effect thereby realized. The claimed invention is therefore considered non-obvious over Tanaka et al. and patentably distinguishing thereover.

Wakayama et al disclose in Figs. 5A and 5B a contact formed along an electric charge transfer direction. However, the Wakayama et al contact forms a portion of the light shielding film, and is not connected to a wiring layer as claimed. On the contrary, Claims 2, 3, 5-12, 14-19, 22, 23, 25, and 26-29 recited that the contact is connected to two wiring layers different from each other. The contact of Claim 20 is connected to the wiring layer and the electrode. Wakayama et al neither disclose nor suggest such a contact, as the Wakayama et al contact is formed separately from the wiring layer. Thus, Wakayama et al neither disclose nor suggest the contact connected to two wiring layers and the contact connected to the wiring layer and the electrode, as claimed, and accordingly, it is respectfully submitted that Wakayama et al do not render obvious the claimed invention.

Similarly, Kawahara (USP 4,696,021), Masatoshi (USP 5,028,970), Negishi (USP 5,250,825), Nakashiba (USP 5,442,396) and Hanano (USP 5,504,355) also fail to disclose or suggest the contact in stripe shape formed along electric charge transfer direction. Accordingly even if these citations combined, it is respectfully submitted that the claimed invention would not be obviated by the combined teachings of these references.

Accordingly, in view of the present amendment and in light of the above comments, no further issues are believed to be outstanding and the pending claims are believed to be allowable. An early and favorable action to that effect is therefore respectfully requested.

Respectfully submitted,

OBLON, SPIVAK, McCLELLAND,
MAIER & NEUSTADT, P.C.



Eckhard H. Kuesters
Attorney of Record
Registration No. 28,870

Customer Number

22850

Tel: (703) 413-3000
Fax: (703) 413 -2220
(OSMMN 06/04)